SECTION – C
(DESCRIPTIVE QUESTIONS)

Q – 16 Factorize any FIVE of the following

(i) $4(x + 2y)^2 - 9(x - y)^2$ (ii) $a^2x^4 - 20ax^2y^2 - 96y^4$

(iii) $a^2 - b^2 + 9c^2 + 6ac$ (iv) $24x^2 - 81x + 27$

(v) $a^3 - 2 + \frac{1}{a^3}$ (vi) $ax^{12} + ay^{12}$

(vii) $a^3(b^2 - c^2) + b^4(c^2 - a^2) + c^4(a^2 - b^2)$

Q – 17 (a) Construct a triangle ABC such that m?$\overline{AB}$ = 3.6 cm, m$\overline{BC}$ = 4cm and m$\overline{AC}$ = 5.2 cm. shwo that its median are concurrent.

(b) Derive with the help of right angle triangle: $\tan^2\theta + 1 = \sec^2\theta$

Q – 18 (a) if $A = \begin{vmatrix} 1 & 4 \\ 3 & 5 \end{vmatrix}$ and $B = \begin{vmatrix} 6 & 3 \\ 2 & -1 \end{vmatrix}$ then shwo that $A^2 - B^2 \neq (A + B)(A - B)$.

(b) show that:

$$\text{Log}_a \frac{\sqrt[4]{5}\ \sqrt[10]{2}}{\sqrt[2]{18},\ \sqrt{2}} = \frac{1}{4}\ \text{Log}_a 5 - \frac{11}{5}\ \text{Log}_a 2 - \frac{2}{3}\ \text{Log}_a 3$$